

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/663,310  
Filing Date: September 16, 2003  
Applicant: Mau-Song Chou et al.  
Group Art Unit: 2884  
Examiner: Marcus H. Taningco  
Title: DETECTION AND ANALYSIS OF CHEMICAL AND  
BIOLOGICAL MATERIALS BY PASSIVE EMISSION OF  
TERAHERTZ WAVE AGAINST A COLD BACKGROUND  
TARGET  
Attorney Docket: NGC-00088 (339-804)

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPELLANT'S REVISED REPLY BRIEF**

This is Appellant's Revised Reply Brief pursuant to 37 CFR §41.41 in response to the Office Communication mailed July 25, 2008 stating that the paper mailed October 4, 2007 has been vacated and that Appellant's Reply Brief filed on December 18, 2006 has not been considered because it included a new or non-admitted amendment or new or non-admitted affidavit or other evidence. That Reply Brief did not include a non-admitted amendment or a non-admitted affidavit. Therefore, it is assumed that the chapter provided on Terahertz imaging from Middleman, D., "Sensing With Terahertz Radiation" showing that sub-millimeter wave radiation can be used for imaging is new

evidence that will not be considered. This Reply Brief fully states the arguments from Appellant's Second Reply Brief with that evidence removed. Therefore, Appellant respectfully submits that it is proper that this Reply Brief be considered.

From the Argument section of the Examiner's Answer it appears that the Examiner is relying solely on the language "sub-millimeter spectroscopy" to provide a motivation to combine the Luukanen imaging system with the systems taught by Laufer, Chou or Butler. The Examiner states that sub-millimeter spectroscopy inherently includes a generation of an emissions spectrum from the object under scrutiny. Appellant respectfully submits that sub-millimeter spectroscopy does not inherently refer to emissions spectrum spectroscopy, but can include other types of spectroscopy, including imaging spectroscopy and absorption spectroscopy.

Further, the language relied on by the Examiner in column 12, lines 43-48 of Luukanen states that the system of the invention can be used not only for searching weapons and smuggled goods, but also for sub-millimeter-range spectroscopy. As Appellant has argued throughout the prosecution of this application, Luukanen only teaches an imaging system. This is clear because Luukanen only discloses detectors that provide imaging, such as antenna coupled bolometers, and not spectrometers. Therefore, Appellant submits that "the system of the invention" is an imaging system.

Appellant refers the Board to the Abstract of Luukanen where it states, "[t]he invention relates to detection performed over millimeter and sub-millimeter wavelengths, especially to imaging solutions functioning over a sub-millimeter-wavelength range. The system of the invention uses detectors, comprising antenna coupled bolometers together with wavelength selective optics." Appellant respectfully submits that

Luukanen specifically states that their sub-millimeter wavelength system is an imaging system.

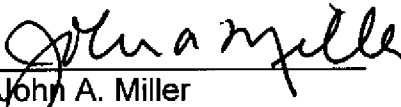
In response to the Examiner's comment concerning Appellant's Argument that Luukanen uses its cold surface for a different reason than the claimed cold surface, Appellant offers the following comments.

Appellant submits that the Luukanen cold surface is not in the field of view of the bolometer, and is used for enhancing the contrast between the object being imaged and its background where the object 114 reflects the radiation of the cold body 111. Appellant's claimed cold body is in the field of view of the spectrometer, and thus, to use the word relied on by the Examiner, inherently, allows measurements of the emissions spectrum from the sample by suppressing background emissions so that the sample does not need to be heated.

For the reasons given above and in Appellant's Brief, it is respectfully requested that the Examiner's rejection under §103 be reversed.

Respectfully submitted,  
MILLER IP GROUP, PLC  
Attorney for Appellant

Date: 8/7/08

  
John A. Miller  
Registration No. 34,985

42690 Woodward Ave., Ste. 200  
Bloomfield Hills, MI 48307  
Telephone: (248) 858-4200  
Facsimile: (248) 858-4201